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Screen Time and Physical Activity in Overweight and Obese Students

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Abstract

Background: One of the most important threats for children's health status is being overweight and obesity, and related causes such as screen time prevalence. Prevalence of being overweight and obesity in children is associated with health risk consequences in adulthood.
Objectives: The purpose of this study was to assess the prevalence of screen time and physical activity in overweight and obese students.
Patients and Methods: In this cross sectional descriptive study we randomly selected 302 students, from all districts of Qazvin, who's relative body mass index (RBMIs) were above the 85th percentile. Their screen time and physical activity prevalence were assessed with two separate techniques (self-report and parent-report). Pearson correlation test and regression analysis were done to examine the association between RBMI, screen time and physical activity.
Results: Mean screen time in boys was more than girls, in both overweight screen time- self report technique (ST-SRT: 1.93 ± 0.24 vs. 1.26 ± 0.44, ST-PRT: 3.4 ± 0.22 vs. 2.1 ± 0.15) and obese subjects (ST-SRT: 1.88 ± 0.31 vs. 1.37 ± 0.49, ST-PRT: 3.2 ± 0.32 vs. 2.3 ± 0.34) yet overweight subjects had less total screen time than obese individuals ($P < 0.05$). Pearson correlations with one-tailed test indicated that screen time had a significant association with RBMI. In addition, there was a significant association between the two techniques of screen time and physical activity measurements. The model of regression for screen time and RBMI was significant ($F = 45$, $P = 0.000$, $R^2 = 0.42$) and screen time explained about 16% of variance in RBMI ($B = 0.021$, $SEB = 0.004$, $\beta = 0.325$).
Conclusions: Our research determined an association between screen time, physical activity and RBMI. Screen time was a prominent predictor of RBMI in children. It is important for health workers to decrease screen time of children to prevent the prevalence of being overweight and obesity.

Keywords: Physical Activity, Sedentary Behavior, Overweight, Obesity

1. Background

One of the most important threats for children's health status is obesity and being overweight (1-3). It affects approximately 10 percent of children worldwide and seems to be more common in developing countries, and there are some influential variables, such as daily activities, diet, psychosocial factors, ethnicity, parental views, gender, socioeconomic status and genetics (4-10). As the prevalence of being overweight and obesity in children is associated with health risk consequences in adulthood, most health interventions have aimed to manage children's weight via change in their diet habits, daily activity and scheduling screen time (11-14).

Screen time, which is considered as a sedentary behavior, and is defined as the time spent watching TV, playing computer games and Internet use, has been associated with a high prevalence of being overweight and obese, and their related consequences such as type 2 diabetes and cardiovascular diseases (12, 13). Research has shown that the amount of time young people spend on sedentary behaviors has increased in the recent years, and while this includes time spent watching TV, there has been a dramatic increase in other types of screen time, such as computers and video games, that appear to be driving the trend. There has also been an increase in the percentage of children who spend an excessive amount of time (two or more hours per day) on sedentary behaviors. A number of studies have linked watching TV with increased risk of being overweight and obese among children and teens (15, 16).

Many researches have revealed a complex relationship between screen time and physical activity, and that in children, the more daily screen time is associated with less physical activity. Less physical activity is accompanied by consequences such as more screen time. Decreasing the prevalence and incidence of high-risk behaviors in children is a priority for health workers, because it is an effective strategy for lifetime disease prevention (11, 14, 17-21). Many health agencies and foundations have recommended national or international strategies for children's daily screen time and physical activity (18, 22, 23). Despite the existence of some differences in their recommendations, they all agree that daily screen time